

The undersigned wishes to extend appreciation to Examiner Butler of the United States Patent and Trademark Office for the courtesies extended in a telephonic interview of May 17, 2005. The substance of that telephonic interview is hereby confirmed and expanded upon.

It was confirmed that the Information Disclosure Statement filed by facsimile on April 13, 2005 was in the file wrapper of the present application.

In Takahashi, a stepped joint is provided between rod cover 3 and end cover 22 (as best seen in Figure 1) and bolts shown in Figures 2, 3, 5 and 6 pass through rod cover 3 and are threaded into cover 22 and are tightened until the axial ends of rod cover 3 and end cover 22 abut. For its rod retaining mechanism, Takahashi utilizes brake shoes 24, shoe holder 25 and piston guide 26 which suffer from the disadvantages set forth in the specification of the present application at least at page 1, line 15 and following. In particular, internal movement of brake shoes 24, shoe holder 25 and piston guide 26 relative to rod cover 3 and end cover 22 or, in other words backlash, depends upon the tolerance of manufacture of each of the brake shoes 24, shoe holder 25, piston guide 26, rod cover 3 and end cover 22. There is no way to reduce that backlash absent replacement of one or more of those parts, and there is no way to apply a force to and hold end cover 22 after mounting. Thus, Takahashi suffers from the disadvantages of the prior art and does not accomplish the function of the present invention.

For completeness, Yonezawa cited in the PCT search report recognizes the problem solved by the present invention and utilizes another solution, namely utilizing "a pushing rubber (another resilient member) 20" to push collet 10 against stopper 22 by an upper sleeve 21. Thus, internal movement of collet 10 depends upon the resiliency of member 20 as well as the tolerance of each of components 2a, 10, 21, 22 and others. There is no way to reduce that

backlash absent replacement of one or more of those parts, and there is no way to apply a force to and hold upper sleeve 21 after mounting. Thus, Yonezawa still suffers from the disadvantages of the prior art and does not accomplish the function of the present invention.

It is unclear how Figure 8 of Allen also cited in the PCT Search Report is constructed, but it is assumed that the three-section cylindrical brake shoe 55 is formed separately from the end 72 as evidenced by the oppositely crosshatched, unnumbered, component at both ends of shoe 55 and by the provision of springs 68 and ball bearings 69 at both ends of shoe 55. In any case, the cooperation of brake shoe 55 with end 72 and/or with the housing portion at the left end of brake shoe 55 or in other words the amount of backlash is dependent upon the manufacturing tolerance of each of these parts. There is no way to reduce that backlash absent replacement of one or more of those parts, and there is no way to apply a force to and hold the housing after mounting which allows the amount of clamping force on brake shoe 55 to be adjusted. Thus, Allen suffers from the disadvantages of the prior art and does not accomplish the function of the present invention.

Goellner also cited in the PCT Search Report and previously cited in the Information Disclosure Statement filed March 8, 2004 has already been indicated as being considered by the Examiner.

In summary, it is respectfully submitted that Examiner Butler has merely indicated that the prior art "reduces backlash" without any consideration of the actual teachings or what would be suggested by the prior art. It was the belief of the undersigned that Examiner Butler agreed in the telephonic interview of May 17, 2005 that each of the rejections had been overcome but could not indicate that the application was in condition for allowance until after an independent

Serial No. 10/714,279

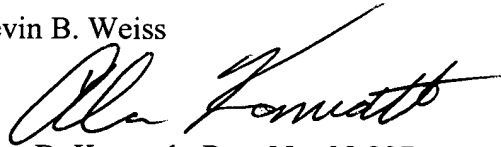
review of the prior art and written comments and a further, updated search was performed. If any obstacles exist to the allowance of this application, it is respectfully requested that the undersigned be contacted by telephone.

The Examiner has indicated consideration of the United States and foreign patents listed in the NOTICE OF REFERENCES CITED as B in the January 19, 2005 Official Action and as A and B in the August 31, 2004 Official Action and of those cited by applicant. By the lack of application of these references and others like them within the classes or subclasses searched, the Examiner apparently recognizes the clear patentability of the present invention over any of these references.

Therefore, since the claims of the present application have been shown to include limitations directed to the features of applicant's motion control apparatus with backlash reduction which is neither shown, described, taught, nor alluded to in any of the references cited by the Examiner and by the applicant, whether those references are taken singly or in any combination, the Examiner is requested to allow claims 1-21 of the present application and to pass this application to issue.

Respectfully submitted,

Kevin B. Weiss



Alan D. Kamrath, Reg. No. 28,227
NIKOLAI & MERSEREAU, P.A.
Attorneys for Applicant(s)
900 Second Avenue South
Suite 820 International Centre
Minneapolis, MN 55402
Tel: (612) 392-7306
Fax: (612) 349-6556

Dated: May 19, 2005.